THE MARINE CORPS RESEARCH UNIVERSITY

THE PENNSYLVANIA STATE UNIVERSITY

TASK DESCRIPTION

DATE PREPARED: 4 December 2000

1.TITLE

Implement a Quad Model to Support the Marine Corps' Integrated Logistics Capability

2. TYPE OF TASK

[X] Term/Severable

[ ] Term/Non-Severable

[ ] Completion

3. ESTIMATED COMPLETION DATE

No later than 31 Aug 2001

4. TOTAL ESTIMATED COST ($)

In-House: _____

Subcontract: _____

TOTAL: _____

Staff Hours _____

5. SPONSOR TECHNICAL REPRESENTATIVE (Name, Code, Agency, and Address)

Col Robert Love, USMC
Head, Integrated Logistics Capability Center
Headquarters Marine Corps (LPI)
2 Navy Annex, Room 1103
Washington, DC 20380-1775

6. SPONSOR TELEPHONE (Commercial and DSN)

703-695-5939, FAX 703-695-6015

7. SPONSOR INTERNET ADDRESS

lovere@hqmc.usmc.mil

8. PSU TECHNICAL REPRESENTATIVE (Name and Address)

Dr. John Coyle
Center for Logistics Research
Smeal College of Business Administration
509A, BAB
University Park, PA 16802

9. PSU TELEPHONE

814-865-1866

10. PSU INTERNET ADDRESS

jjc1@psu.edu

11. SECURITY CLASSIFICATION*

UNCLASSIFIED

12. TASK OBJECTIVE

The objectives of this task description are:

1. Further define and tailor the Quadrant Model concept for application within the Marine Corps. This task includes:

a) definition of the Quad Model in Marine Corps and DoD materiel management doctrine, policy, processes, and operational terms

b) concept of operations for application of the Quad Model within the Marine Corps;

c) high-level business rules; and

d) an end-state that conforms to the ILC Business Case.

2. Develop a plan of action and milestones (POA&M) for phased testing and application of the Quad Model in the Marine Corps. The POA&M shall incorporate tests and/or pilot projects using, at a minimum, the AAAV program and selected NSNs (principally SECREPS).

3. Develop quantitative models, algorithms, and business rules for assigning NSNs into appropriate quadrants/sub-quadrants. Develop and conduct a test on a statistically valid sample of NSNs.

* A Contract Security Classification Specification (DD Form 254) is required for Task Descriptions involving CLASSIFIED work.

Contract/Delivery Order Number: **M67004-99-D-0037/**

Attachment: _____

PSU Designator
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13. DESCRIPTION OF WORK

This task description details how Penn State shall define and tailor the Quad Model concept to be applied within the Marine Corps. This task is broken down into four (4) phases with a decision point at the conclusion of Phases A and C. For Phase A, the Sponsor will host a one-week Workshop to define and document the Quad Model concept. For Phase B, Penn State will conduct research into the comercial implementation of the Quad Model. For Phase C, Workshops will be used to develop implementation strategies, a POA&M for applying the Quad Model, and to develop pilot projects. Phase D is testing and proof of concept.

Phase A: Development and Documentation of the Quadrant Model Concept for the Marine Corps (11 Dec 2000-17 Jan 2001. The Quadrant Model concept was presented to the Marine Corps by Penn State during the ILC engagements as a commercial best practice for reducing inventories and tailoring vendor relationships. It was determined that there are potentially significant improvements and savings associated with applying the Quad Model within the Marine Corps. Currently, however, there is no detailed documentation that explains exactly what applying the Quad Model means to the Marine Corps. For that reason, there is a need to define the Quadrant Model concept so the Marine Corps can institute low-level business rules/activities to apply the concept to future logistics process.

This phase will include a one-week, facilitated workshop from 18-22 Dec 00 at a site to be determined and hosted by the Sponsor. Penn State shall provide subject matter experts from academia and industry as required. Government participants (identified and funded by the Sponsor) will include USMC subject matter experts from the areas of materiel management (supply and maintenance), acquisition logistics, contracting, policy, and doctrine. The Quad Model concept shall be developed as it applies specifically to application within the Marine Corps. The specific deliverable for this task is a concept paper that specifically addresses the following:

- A definition and vision of the Quad Model in Marine Corps and DoD logistics doctrine, policy, processes, and operations terms;
- Concept of operations for applying the Quad Model within the Marine Corps (including where, how, critical success factors, essential tasks, and other significant factors or principles);
- High-level business rules;
- Impact in terms of benefits, risks, and potential changes to doctrine and policy.
- A desired end-state for Quad Model application.

The deliverables for Phase A will be a joint effort of Penn State faculty, subject matter experts and representatives of the Sponsor.

Phase B: Research into the Commercial Implementation of the Quad Model (3 Jan – 30 May 2001)

Conduct research into companies that have implemented the Quad Model. The research will provide information that will aid in the implementation of the Quad Model within the Marine Corps. The research will provide data on vendor relationships, business rules for classifying SKUs/NSNs, data requirements, metrics, and tools, techniques and models utilized by industry to implement the Quad Model. This research will support phases C and D.

Phase C: Develop POA&M and Pilot Projects (17 Jan – 16 March 2001). This phase will build on the Quad Model concept developed during Phase A and provide a roadmap for applying the concept in the Marine Corps and will include pilot projects. The Quad Model is a major program consisting of a number of individual projects that will significantly impact how the Marine Corps functions logistically. It is anticipated that application of the Quad Model will require the successful execution of a number of discrete projects. Toward that end, this phase will include potential implementation strategies, a program management plan, work breakdown structure(s), resource estimates, and recommended implementation strategy that support the vision and end-state developed in Phase A.
Note: Implementation strategy is defined as an action, or series of actions, that leads ultimately to the application and institutionalization of the Quad Model within the Marine Corps.
This phase will include Workshops (at least one) . ***The budget contains two (2) options for phase C in regards to Workshop facilitators/venue. Option 1 of Phase C will be hosted at Penn State and facilitated at Penn State on either 11-16 Feb 01 or 4-9 March 01. Option 2 of Phase C will be hosted and facilitated by Sapient Corporation in Arlington, VA at a date TBD.***

Additional Workshops may be conducted if necessary and when approved by the Sponsor. Penn State shall provide subject matter experts from academia and industry as appropriate. The Sponsor will provide subject matter experts. Pilot projects shall include the AAAV program and selected NSNs (primarily SECREPS).

13. DESCRIPTION OF WORK *(Continued)*

Phase D: Testing and Proof of Concept 17 March – 31 Aug 2001. After developing the concept (Phase A) and the POA&M (Phase C), there is a need to develop quantitative models, algorithms, and detailed business rules for assigning NSNs into appropriate quadrants/sub-quadrants. Toward that end, Penn State shall develop detailed business rules and conduct a test on a statistically valid sample of NSNs.

This phase will incorporate results of the work accomplished in Phases A, B and C. This phase may also include Workshops as agreed upon by Penn State and the Sponsor. The scope of work for Phase C includes:

- Develop detailed business rules, quantitative models, metrics, and algorithms for assigning NSNs into appropriate quadrants/sub-quadrants.
- Define sub-quadrants if necessary to segment inventory for value and uniqueness.
- Define the types and characteristics of acquisition and procurement rules and relationship tiers for future Marine Corps logistics/acquisition business processes.
- Develop and conduct a test on a statistically valid sample of NSNs.

14. LIST DELIVERABLE PRODUCTS AND/OR REPORTS. *(Give Schedule)*

Phase A Deliverables. These deliverables are due no later than 17 Jan 2001.

- Provide subject matter experts to aid in the facilitization of a Workshop from 18-22 Dec 00 at a site designated and hosted by the Sponsor.
- In conjunction with representatives of the ILC Center, hired subject matter exerts, Penn State shall provide the following Quad Model Documentation (based on Workshop):
    - Concept paper that defines the Quad Model as it relates to application within the Marine Corps, a definition of the Quad Model in terms of Marine Corps materiel management doctrine, policy, processes, and operations; a concept of operations for implementing the Quad Model within the Marine Corps; high-level business rules; and an achievable end-state that conforms to the ILC Business Case.
    - Executive Presentation (Powerpoint) that describes the Quad Model concept developed in this Phase, and outlines the concept of operations, high-level business rules, and end-state.
    - Issues and Action Items. Documentation of all issues raised during the Workshop, their status, owner, and resolution.
    - Immediate Next Steps. Next steps that need to be acted on immediately following Phase A in order to successfully implement Phase C.

Phase B Deliverables. Quad Model Implementation Research due Interim Report NLT 16 March 2001 and Final Report NLT 30 May 2001.

- Interim Report that provides a snap shot into commercial practices that facilitated implementation of a commercial Quad Model.
- A Final Quad Model Research Report that includes a list of companies that have implemented the Quad Model and findings from the research and field analysis (including vendor relationships, business rules for classifying SKUs/NSNs, data requirements, metrics, and tools, techniques and models utilized in implementing the Quad Model.

Phase C Deliverables. These deliverables are due no later than NLT 16 March 2001.

- Research and Workshops (at least one) that will provide for the following:
    - Alternative implementation strategies including benefits, risk, resource estimates (time, money, and level of effort required) for each, and recommended strategy.
    - Project plans for all Quad Model application projects (including pilot projects) using the ILC Project Management Plan format.
    - Program plan for the recommended implementation strategy that includes sequencing of the various Quad Model application projects showing high-level dependencies, timelines, milestones, and resource descriptions.
    - Executive presentation (Powerpoint) that summarizes recommended implementation strategy, outlines the program plan, and describes how the Quad Model application projects support the vision and end-state developed during Phase A.
    - Issues and Action Items. Documentation of all issues raised during this phase, their status, owner, and resolution.
    - Immediate Next Steps. Next steps that need to be acted on immediately following Phase B in order to successfully test and implement the Quad Model.

Phase D Deliverables. Due date for these deliverables will be NLT 31 Aug 2001.

- Detailed business rules for application of the Quad Model.
- Definition of sub-quadrants (if necessary).
- Quantitative models, algorithms, and detailed business rules for assigning NSNs into appropriate quadrants/sub-quadrants.

14. LIST DELIVERABLE PRODUCTS AND/OR REPORTS. *(Continued)*

- Q Definition of acquisition and procurement rules and relationship tiers for future Marine Corps logistics/acquisition business processes.
- Quad Model Application Test Plan that includes a statistically valid sample of NSNs
- Quad Model Application Test. (Note: Start date to be determined. Results will be provided in a timeframe mutually agreed by the performer and government).
- Executive presentation (Powerpoint) that summarizes the Quad Model Application Report and describes the implementation test.
- Issues and Action Items. Documentation of all issues raised during this phase, their status, owner, and resolution.
- Immediate Next Steps. Next steps that need to be acted on immediately following Phase C in order to successfully test and implement the Quad Model.
- Cost estimates for any subsequent activity recommended to successfully test and implement the Quad Model.

Administrative Deliverables

- A monthly report will be provided by the 15th of each month during the period of performance of this task.
- Interim Program Reviews (IPRs) will be scheduled at the end of phase A and C to review progress, evaluate deliverables and provide for a go/no go decision point.
- IPRs will be completed within 15 days after conclusion of phases A & C.
- All reports will be provided in Microsoft Office format. All schedules and program plans will be provide in Microsoft Project.

15. SPECIAL REQUIREMENTS *(GFP, Special Test Equipment, Foreign Travel, Special Delivery Terms, Other)*

1. Penn State performance of this task is contingent on active participation of the ILC (LPI) staff and those identified subject matter experts whose services will be purchased from the private sector.
2. The Sponsor is responsible for the hosting/designation of the site for the Workshop detailed in Phase A.
3. The Sponsor will assist in the preparation of deliverables for Phase A.
4. Funding for the research into commercial implementation of the Quad Model in Phase B is required in conjunction with Phase A. This is due to the requirement of securing faculty and graduate student support prior to the beginning of the Penn State Spring Semester.
5. The scheduling of additional Workshops in Phase C and Workshops in Phase D may require a revision to this task description to reflect changes in the scope of work and any potential of increased resource requirements

16. SUBCONTRACTS *(If additional space is required, use separate sheet)***---None**

17. ENDORSEMENTS

		12/1/00	814-865-3911
University Laboratory (MCRU Program Manager)		**Date**	**Telephone**
Task Sponsor	**Organization and Code**	**Date**	**Telephone**
Contracting Officer's Technical Representative		**Date**	**Telephone**

COTR Internet Address

Contract/Delivery Order Number: **M67004-99-D-0037/**

Attachment:

PSU Designator
(For PSU Use)

TITLE *(From Page 1 of Task Description)*

Implement a Quad Model to Support the Marine Corps' Integrated Logistics Capability

18. SPONSOR REPRESENTATIONS AND CERTIFICATIONS

a. I have analyzed other sources for accomplishment of this task, but because of the need to (1) maintain a long term strategic relationship, (2) maintain continuity and currency in special fields of expertise, (3) maintain objectivity and a high degree of competency in staff and work, and (4) provide the ability to respond to emerging needs. I have chosen PSU to perform this task. Any subcontracting required in performance of this task is for supplies or services necessary to accomplish such work.

b. The task clearly and adequately defines the work to be performed. Including applicable milestones, deliverables, and reporting requirements. I shall promptly notify the Contract Officer of any material changes in the scope of a Task which materially affects milestones, deliverables or reporting requirements. Such modifications shall be reflected in a written Task Description Revision. Any Task direction within the scope of this Task Description must also be issued in writing by the task sponsor and should be sent directly to PSU.

c. The estimated direct labor staff hours and labor classifications, the estimated amounts for technical services and for direct subcontracts, and the estimated travel costs, as presented in the cost estimate for this Task Description have been reviewed and assessed as fair and reasonable, and where possible, by comparison to costs incurred for similar or related Tasks performed for this office by PSU and/or other contractors. The program sponsor acknowledges that when this Task is negotiated with the contracting agency, some elements of cost such as rates or material may change from the time of task submittal to the program sponsor, and that these changes may effect the number of staff hours estimated for delivery.

d. A current Contract Security Classification Specification (DD Form 254) has been provided to MARCORMATCOM if the proposed work is classified. (See Block 11).

e. The work identified in this Task must carry a Defense Priorities and Allocations System (DPAS) rating in accordance with FAR 11.6. This rating will be specified on subcontracts and purchase orders issued by PSU under Prime

f. If Special Test Equipment (STE) is identified in this _____ (print or type name), a technical evaluator qualified to understand the criteria for classification of property, its composition, and its use, has determined that the property listed in Block 15 as STE is properly classified in accordance with FAR 45.101.

g. I have discussed this work with my controller's office, which concurs that this ____ is ____ is not (check only one appropriate) classified as Consulting Services (CS) as defined by SECNAVINST 4200.31C, or as defined by appropriate instructions applicable to my organization. _____ (name and telephone number) of the controller's office of my organization has been supplied with a copy of this task and concurs with this CS/non-CS determination, and has authority to make such determinations. All funding supplied for this task will be appropriate for the CS determination.

19. I CERTIFY THAT THE ABOVE INFORMATION IS ACCURATE AND COMPLETE

Sponsor Signature	Date	Telephone
Name (Type or Printed)	Title	

THIS CERTIFICATION AND ENDORSEMENT MUST BE FORWARDED WITH THE ORIGINAL OF THE TASK DESCRIPTION TO MARCORMATCOM, WITH A COPY TO ARL/PSU

Contract/Delivery Order Number: **M67004-99-D-0037/**

Attachment: _____

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